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BACHMAN & LAPOINTE, P.C.
900 CHAPEL STREET
SUITE 1201
NEW HAVEN, CT 06510

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/718,023
Filing Date: November 19, 2003
Appellant(s): LIEBERMANN, RAANAN

Barry L. Kelmachter
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 13, 2009 appealing from the Office action mailed August 19, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 1-36, 39-44, and 46-72 appears on pages 41-52 of the Appendix to the appellant's brief. The minor errors are as follows:

The identified status of each of the appealed claims, i.e., "(On Appeal)" has not been presented.

The canceled claims 37, 38, and 45 and their statuses have not been listed.

(8) Evidence Relied Upon

5,636,038	Lynt et al.	6-1997
3,831,296	Hagle	8-1974
6,240,392	Butnaru et al.	5-2001
2004/0098256	Nissen	5-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-9, 14, 15, 19, 20, 22-27, 42, 43, 46-49, and 53-58, [71, and 72] are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lynt et al. (5,636,038).

Referring to claim 1, Lynt et al. teaches a method for communicating visual images to a handicapped person, said method comprising the steps of: providing at least one device for physically transmitting information to said handicapped person

(Figs.1, 4)(1:30-45; 1:58-2:14); providing information about said visual images to said handicapped person using said at least one device (2:29-44; 3:23-66); and said information providing step comprising delivering a physical signal representative of a key word, (*e.g., using tactile display to output Braille character (6:7-26) or identifying an object from data base using key word such as mailboxes, police cars, tanks, etc.(4:29-34) or identify a person using key word such as "Mr. Bill" (6:10-14))*, describing a portion of a visual image to said handicapped person using said at least one device (3:47-50; 6:4-26), and further transmitting at least one physical input describing dynamic element associated with said key word to a second part of the body of said handicapped person (e.g., identifying a green light signal and communicate to the handicapped person by mechanical vibration (5:35-44)). Note that, regarding the amended limitation of delivering a physical signal representative of a key word describing a portion of a visual image to a first part of said handicapped person and further transmitting at least one physical input describing a dynamic element associated with said key word to a second part of the body of said handicapped person, this limitation is inherent from Lynt et al.'s teaching of separated tactile displays for visual image and auditory display to the handicapped person visual image and auditory display (5:45-65).

Should the applicant persuasively overcome the limitation of "transmitting at least one physical input describing a dynamic element associated with said key word to a second part of the body of said handicapped person", this limitation would also be obvious since the device of Lynt can analyze at least visual images, sounds, and speech and communicates via different tactile displays to the skin of the handicapped

person. Further, it is desired to communicate as much information to the handicapped person as much as possible to provide a true sense of the surrounds or environments.

Referring to claim 42, Lynt et al. teaches a system for communicating visual images to a handicapped person, said system comprising: at least one device (Figs.1, 4)(1:30-45) for physically transmitting information about said visual image to said handicapped person, *e.g., using image identification and Braille representation (6:4-26)*; and said at least one device including means for delivering a physical signal representative of a key word to a first part of a body of said handicapped person (2:29-44; 3:47-50; 6:4-26), wherein said at least one device further comprises means for delivering at least one physical input describing a dynamic element associated with said key word to a palm of said handicapped person, *e.g., using sonar and/or radar imaging to "see" through fog to alert* the person to objects ahead through the tactile representation on the tactile display (6:27-32). Note that, regarding the amended limitation of delivering a physical signal representative of a key word describing a portion of a visual image to a first part of said handicapped person and further transmitting at least one physical input describing a dynamic element associated with said key word to a palm of said handicapped person, this limitation is inherent from Lynt et al.'s teaching of separated tactile displays for visual image and auditory display to the handicapped person visual image and auditory display (5:45-65).

Should the applicant persuasively overcome the limitation of "transmitting at least one physical input describing a dynamic element associated with said key word to a

second part of the body of said handicapped person", this limitation would also be obvious since the device of Lynt can analyze at least visual images, sounds, and speech and communicates via different tactile displays to the skin of the handicapped person. Further, it is desired to communicate as much information to the handicapped person as much as possible to provide a true sense of the surrounds or environments.

Referring to claims 3, 27, and 58, Lynt et al. teaches delivering said key word in Braille form to a body part of said handicapped person (5:45-53; 6:15-19).

Referring to claims 4 and 43, Lynt et al. teaches transmitting at least one physical input describing a dynamic element to a palm of said handicapped person (3:36-66; 5:15-34).

Referring to claims 5-7, 46, and 47, Lynt et al. teaches transmitting a plurality of successive elements describing a motion to said palm of said handicapped person; transmitting a continuance signal to said palm of said handicapped person to indicate continuance of said motion; and wherein said continuance signal transmitting step comprises transmitting said signal in the form of at least one vibration or impact on a body part (3:36-66; 5:15-34).

Referring to claims 8, 9, 48, and 49, the limitations of delivering information about a musical background to said handicapped person; and wherein said musical background delivering information comprises transmitting at least one of long and short physical impacts to a body part of said handicapped person are inherent from Lynt et

al.'s teaching of processing and delivering auditory information to the handicapped person (2:15-27; 2:50-60; 3:32-35, 47-50; 4:40-42, 53-59).

Referring to claims 14, 15, 19, and 53-55, the limitations of transmitting information about said visual images to the back of at least one finger of said handicapped person (claims 14, 53); and transmitting information about the character of a person displayed in said visual images through at least one impact to said back of said at least one finger (claims 15, 54); and transmitting information about said visual images to a front portion of at least one finger (claims 19 and 55) are inherent from Lynt et al.'s teaching of the tactile display means would be placed on surface of a portion of the individual's body and the display could be a two dimensional grid in the shape of a hand or finger tip (2:1-6; 3:62-66; 5:19-20).

Referring to claim 20, Lynt et al. teaches transmitting information about a particular group, e.g., any activity detected by the cameras of the image means (1:35-57).

Referring to claim 22, Lynt et al. teaches transmitting information about lighting to said front portion of said at least one finger (1:35-45; 2:7-14; 5:35-44).

Referring to claims 23-25 and 56, Lynt et al. teaches transmitting information about scenery, a place, activity, and different pieces of information about visual images (e.g., detecting traffic lights, traffic patterns, machinery, etc) to said front portion of said at least one finger (5:35-60).

Referring to claims 26 and 57, Lynt et al. teaches transmitting information about a dialogue being spoken associated with said visual image to said handicapped person (6:10-32).

Referring to claims 71 and 72, wherein said transmitting step comprises transmitting said at least one physical input describing said dynamic element to a second part of the body which is different from said first part of the body; and wherein said delivering means delivers said physical signal to at least one of fingertips of a hand that does not include said palm and fingers that are part of the hand which has said palm, since Lynt et al. teaches using separated tactile displays for visual image and auditory display to communicate visual image and auditory display to the handicapped person (5:45-65), it would have been obvious to communicate as much information to the handicapped person as much as possible to provide a true sense of the surrounds or environments.

Claims 2, 13, 16-18, 21, 28-32, 35, 36, 44, 52, 59-64, and 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Hagle (3,831,296).

Lynt et al. teaches all limitations of claims 1, 14, 15, 19, 20, and 42 above. Lynt et al. does not explicitly teach the limitations of: delivering said key word in Morse code form to said handicapped person via a body part (claims 2, 44); providing said handicapped person with information about a state of reception of a system on which said visual images are displayed (claims 13, 52); dividing said fingers of a hand of said

handicapped person into a first group consisting of a pointer finger and a middle finger and into a second group consisting of a ring finger and a pinky and said transmitting step comprises transmitting information about a bad character to one of said fingers of said first group and transmitting information about a good character to one of said fingers of said second group (claim 16); designating one finger of each of said groups for receiving information about a male character and designating one finger of each of said groups for receiving information about a female character (claim 17); transmitting information about an age of a character and a personality of said character to said back of said at least one finger (claim 18); transmitting information about a profession of said character to said front portion of said at least one finger (claim 21); using a thumb of said handicapped person to perform control functions (claims 28, 59); using said thumb to perform at least one of call for help, call for person, and ask questions (claim 29); using said thumb to receive information about at least one of safety alerts, general alerts, and general information (claim 30); transmitting information about at least one of female representation and cross relationships to a front portion of a pinky of said handicapped person (claims 31, 62); transmitting information about an aggression group, a neutral group, and a pleasant group to at least one finger of at least one hand of said handicapped person (claims 35, 67); said aggression group information is transmitted to a finger of a hand (claims 36, 68); said neutral group information is transmitted to a finger of a hand (claims 37, 69); said pleasant group information is transmitted to a finger of a hand (claims 38, 70); said allowing means comprises a

thumb cradle (claim 60); said allowing means comprises a thumb sleeve (claim 61); said information transmitting means comprises a pinky cradle (claim 63).

Hagle, however, teaches a method and system for communicating with the blind and deaf person comprises providing said handicapped person with information about a state of reception of a system on which said visual images are displayed (3:8-12); dividing said fingers of a hand of said handicapped person into a first group consisting of a pointer finger and a middle finger (Fig.3, e.g., fingers 39, 35)(3:34-41) and into a second group consisting of a ring finger and a pinky (Fig.3, e.g., fingers 36, 37)(3:24-41); using a thumb of said handicapped person to perform control functions (Figs. 2, 3; 1:40-2:4); using said thumb to perform call for person (1:28-2:12); using said thumb to receive information about general information (Figs. 2-4; 3:30-64); said allowing means comprises a thumb cradle or a thumb sleeve or a pinky cradle, i.e., gloves (Figs. 1-4; 3:15-29). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Hagle's two-way communication system for the blind and deaf person to the system for converting visual and auditory into tactile representation, as taught by Lynt et al., to come up with a communication system that provide the deaf and blind person total control thus he or she can truly experience and interact with the environment.

With respect to claims 16-18, 21, 31, 35, 36, 62, and 67-70, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the

intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the communication system of Lynt et al. and Hagle, wherein Lynt et al.'s and Hagle's teaching of the handicap person is taught that each location of the simulators represent a different function, is capable of performing the claimed functions of transmitting information about a bad character to one of said fingers of said first group and transmitting information about a good character to one of said fingers of said second group; designating one finger of each of said groups for receiving information about a male character and designating one finger of each of said groups for receiving information about a female character; transmitting information about an age of a character and a personality of said character to said back of said at least one finger; transmitting information about a profession of said character to said front portion of said at least one finger; transmitting information about at least one of female representation and cross relationships to a front portion of a pinky of said handicapped person; transmitting information about emotional state to at least one finger of at least one hand of said handicapped person; said aggression group information is transmitted to a finger of a hand; said neutral group information is transmitted to a finger of a hand; and said pleasant group information is transmitted to a finger of a hand.

Referring to claims 2 and 44, Lynt et al., as modified by Hagle, discloses delivering said key word in Morse code form to said handicapped person via a body part

to provide alternative communication form for unwritten communication is well known (1:16-20).

Claims 10-12, 39-41, 50, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Butnaru et al. (6,240,392).

Referring to claims 10 & 50, Lynt et al. discloses the method and system according to claims 1 & 42. Lynt et al. does not explicitly disclose transmitting information about a start and an end of a commercial to said handicapped person. However, Butnaru et al. teaches a communication device and method for deaf and mute persons comprising transmitting information about a start and an end of a commercial to said handicapped person (7:36-67). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include transmitting information about a start and an end of a commercial to said hand capped person as disclosed by Butnaru et al, incorporated into Lynt et al. in order for the user to enjoy the television show by allowing the user to distinguish between the actual show and the commercials.

Referring to claims 11 & 51, Lynt et al. discloses the method and system according to claims 1 & 42. Lynt et al. does not explicitly disclose transmitting information about a start of and an end of an emergency broadcast test/test to said handicapped person. However, Butnaru et al. teaches further comprising transmitting information about a start of and an end of an emergency broadcast test/test to said handicapped person (abstract: indicator signals). It would have been obvious to a

person of ordinary skill in the art at the time the invention was made to include transmitting information about a start of and an end of a emergency broadcast test/test to said handicapped person, as disclosed by Butnaru et al., incorporated into Lynt et al.'s in order to represent dangerous or cautious situations.

Referring to claim 12, Lynt et al. discloses a method according to claim 1. Lynt et al. does not explicitly disclose storing information from a written indicia scrolling across a screen containing said visual image for play at another time. However, Butnaru et al. teaches further comprising storing information from a written indicia scrolling across a screen containing said visual image for play at another time (column 2 lines 41-44 & processor 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include storing information from a written indicia scrolling across a screen, as disclosed by Butnaru et al., incorporated into Lynt et al.'s in order to display the symbolic representation of the speech data.

Referring to claim 39, Lynt et al. discloses a method according to claim 1. Lynt et al. does not explicitly disclose wherein said visual image is part of a television program containing sound and said handicapped person is a deafblind person and wherein said method further comprises transmitting information about dialogue being spoken by characters on said television program to said deafblind person. However, Butnaru et al. teaches wherein said visual image is part of a television program containing sound (column 1 lines 63-67) and said handicapped person is a deafblind person (column 1 lines 13-16) and wherein said method further comprises transmitting

information about dialogue being spoken by characters on said television program to said deafblind person (column 7 lines 36-40).

Referring to claim 40, Lynt et al., as modified by Butnaru et al., discloses wherein said information about said dialogue is transmitted by a keypad contacting fingertips of said deafblind person and said key word is delivered to said deafblind person through a plurality of impacts on a palm of a hand of said deafblind person (Lynt et al.'s 2:29-44; 3:23-66).

Referring-to claim 41, Lynt et al., as modified by Butnaru et al., discloses further comprising transmitting information about motion of said visual images to said deafblind person through a plurality of impacts on said palm (Lynt et al.'s 3:47-50; 6:4-26).

Claims 33, 34, 65 & 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Nissen (U.S. 2004/0098256).

Referring to claims 33 & 65, Lynt et al. discloses a method according to claims 1 & 42. Lynt et al. does not explicitly disclose further comprising transmitting information about grammatical tense to at least one finger of at least one hand. However, Nissen teaches further comprising transmitting information about grammatical tense to at least one finger of at least one hand (paragraphs 0014, 0022, 0023, 0079 & 0082). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include transmitting information about grammatical tense to at

least one finger of at least one hand, as disclosed by Nissen, incorporated into Lynt et al. in order to have direct communication with or between deafblind people.

Referring to claim 34, Lynt et al., as modified by Nissen, teaches further comprising said transmitting step comprises transmitting grammatical tense information to a back of a pinky of said at least one hand (paragraph 0023).

(Final Office Action, mailed on August 19, 2008 (pages 2-14, *Claim Rejections - 35 USC § 102 and Claim Rejections - 35 USC § 103*)).

(10) Response to Argument

I. Response to Appellant's arguments on rejected claim 1 under 35 U.S.C 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lynt et al. (5,636,038) (Argument Section (1), pages 14-21).

i) Response to Appellant's arguments on rejected claim 1 under 35 U.S.C 102(b) as being anticipated by Lynt et al.

The Appellant argued that Lynt et al. does not disclose the step of delivering a physical signal representative of a key word which describes a portion of a visual image to a first part of a body of the handicapped person and transmitting at least one physical input describing a dynamic element associated with the key word to a second part of the body of the handicapped person (Argument Section (1), page 15, 1st paragraph to page 19, 2nd paragraph) is respectfully disagreed.

a. Lynt et al. teaches delivering a physical signal, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6)*, representative of a key word,

e.g., mail box, police car, tanks, etc. (4:29-34), describing a portion of a visual image to a first part of a body of the handicap person:

> *The present invention provides the following novel features. According to one embodiment of the invention, imaging means converts light received from the field of view into electrical signals, processing means processes the electrical signals, and tactile display means converts the processed electrical signals into tactile images which can be perceived through the sense of touch by the visually impaired person. Therefore, the tactile images are felt by the visually impaired person and enable them to ascertain information by touch about the world around them that a sighted person would ascertain through vision. (Lynt et al., column 1, lines 36-45)*
>
> *The tactile display means may comprise a plurality of individually controlled miniature actuators, e.g., motors or solenoids, oriented in a grid each of which respond to a portion of the processed electrical signals, a plurality of miniature gear assemblies, e.g., rack and pinion gear assemblies, each of which is operatively connected to one of the miniature actuators so that rotational motion of a pinion connected to a shaft of a miniature actuator is converted into linear motion of a rack, a plurality of rods, each of which is connected to one of the racks, so that when the racks move linearly, the rods move linearly as well, and means for adapting the tactile display means to a portion of the body of a visually impaired person including means for causing the rods to move perpendicular to the surface of the portion of the body. A tactile image is thus formed by the movement of the rods against the body of the person. (Lynt et al., column 1, line 58 to column 2, line 6)*
>
> *the apparatus further comprises speech analysis means, for detecting and recognizing spoken words, and outputting electrical signals to the processing means corresponding thereto. The processing means also processes the electrical signals from the speech analysis means, and the tactile display means also converts the processed electrical signals derived from the speech analysis means into further tactile images, the further tactile images being representations of the spoken words. In this way, **the tactile images and further tactile images are felt by the visual and hearing impaired person enabling them to ascertain information by touch about the world around them that a sighted and hearing person would ascertain through vision and hearing**. According to another aspect of the invention the further tactile images may be produced on a dedicated portion of the tactile display means. (Lynt et al., column 2, lines 29-43)*
>
> *The processing means processes the electrical signals from the imaging means. Such processing may include converting analog signals into digital signals and*

performing various well understood operations on the signals, such as performing a Fourier transform to extract object edge information, for example. The processing means in essence ***identifies objects****, their relative size, their spatial location relative to the device,* ***their movement****, if any, etc. (Lynt et al., column 3, lines 36-44)*

Note that, the reference of Lynt et al. does not preclude the tactile displays to be placed on more than one portion or part of an individual' body surface (or skin).

b. Lynt et al. further teaches transmitting at least one physical input describing a dynamic element associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44),* to a second part of the body of the handicapped person:

The processing means processes the electrical signals from the imaging means. Such processing may include converting analog signals into digital signals and performing various well understood operations on the signals, such as performing a Fourier transform to extract object edge information, for example. The processing means in essence ***identifies objects****, their relative size, their spatial location relative to the device,* ***their movement****, if any, etc. (Lynt et al., column 3, lines 36-44)*

Filtering means is provided to adjust features of the electrical signals stored in the memory means. The term "filtering" is used loosely to cover a variety of image data processing operations, such as fourier transform, convolution, and the like, to ***identify image features such as edges, shapes, size and relative spatial location****, for example. The filtering means may comprise complicated special purpose digital processing integrated circuits, or be performed on a microprocessor under program control running digital signal processing routines.*

A data base of common object patterns could be stored and accessed during this processing to ***identify ubiquitous objects, such as traffic lights, mail boxes, police cars, tanks****, etc. There is a set of international symbols for various things, and through pattern recognition, these could be found and identified. (Lynt et al., column 4, lines 19-34)*

The output means and filtering means cause the tactile display through the auxiliary display means to also provide an indication of color. This could be used to indicate a red or green light signal, for example, or ***flashing yellow lights****,*

which would be otherwise imperceptible to a vision impaired person. (Lynt et al., column 5, lines 39-44)

c. The claimed limitation of delivering a physical signal to a first part of said handicapped person and further transmitting at least one physical input to a second part of the body of said handicapped person is inherent from Lynt et al.'s teaching of using separate tactile displays to provide visual images and auditory images to the handicapped person.

According to Lyn et al., the communication device provides either a single tactile display having different portions for outputting visual and auditory information or the device provides separate visual and auditory tactile displays to a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60); and that the tactile display as disclosed by Lynt et al. would be placed on a surface (skin) **or** on a portion (5:15-18)(skin) of an individual's body (3:62-66); in specialized applications, the tactile display has a sphere shape, when held in a hand it provides 3-D information about an apple (5:22-26). Thus the separate tactile displays must be placed in more than one part of the surface (or skin) of the individual's body in order for a blind-deaf person to observe both visual and auditory information of the world around her/him. These teachings are as following:

the apparatus further comprises speech analysis means, for detecting and recognizing spoken words, and outputting electrical signals to the processing means corresponding thereto. The processing means also processes the electrical signals from the speech analysis means, and the tactile display means also converts the processed electrical signals derived from the speech analysis means into further tactile images, the further tactile images being representations of the spoken words. In this way, ***the tactile images and further tactile images***

are felt by the visual and hearing impaired person enabling them to ascertain information by touch about the world around them that a sighted and hearing person would ascertain through vision and hearing. *According to another aspect of the invention the further tactile images may be produced on a dedicated portion of the tactile display means. (Lynt et al., column 2, lines 29-43)*

Means for adapting the tactile display means to a portion of the body of a visually impaired person may also be provided, and would include ***means for causing the rods to move perpendicular to the surface of the portion of the body***. *For example, the tactile display could be a two-dimensional grid in the shape of a hand or finger tip, for example. It does not necessarily have to be rectangular, for example.*

For specialized applications, the display could be made spherical and about the size of a tennis ball, for instance. When held in the hand, and provided with 3-D information about an apple, for example, the sphere would take the three-dimensional form of the apple. In this embodiment, the rods would be extendable and retractable from a spherical initial position. In this embodiment, multiple imaging means, e.g., three cameras located in a triangulation arrangement, would be used, to obtain the three dimensional front, back and side information.

Thus, a tactile image is formed by the movement of the rods against the body (skin) of the person. (Lynt et al., column 5, lines 15-34)

In a further embodiment according to the invention, as shown in FIG. 5, an auxiliary display means may be provided for indicating the color of the object, through a particular mechanical vibration for a particular color, for example. The output means and filtering means cause the tactile display through the auxiliary display means to also provide an indication of color. This could be used to indicate a red or green light signal, for example, or ***flashing yellow lights***, *which would be otherwise imperceptible to a vision impaired person.*

FIG. 6 is a block diagram of an exemplary embodiment of an apparatus for converting sounds into tactile representations for use by a person who is hearing impaired, including auditory means, according to the invention. Similarly to the image processing described above, sounds would be detected and processed to form a tactile image. If the processing includes speech analysis, for example, the tactile display could be caused to form alphabetical or braille type characters.

If used in conjunction with the imaging features, the auditory processing could indicated a general noise level, such as are used by non-sighted persons to detect traffic patterns, machinery, etc. ***A specific portion of the tactile display***

> ***could be dedicated to imaging while another portion would be dedicated to auditory display. Alternatively, separate displays could be provided for each function**. (Lynt et al., column 5, lines 35-60)*

Furthermore, Lynt teaches in addition to displaying tactile images through the mechanical rods, heat or vibration could be used to indicate objects:

> *Besides displaying tactile images through the movement of mechanical rods, heat or vibration could be used, alone or in combination to indicate objects. (Lynt et al., column 6, lines 7-9)*

Note that, the reference of Lynt et al. does not preclude the tactile displays to be placed on more than one portion or part of an individual' body surface (or skin).

The discovery of a new use for an old structure based on unknown properties of the structure might be patentable to the discoverer as a process of using. In re Hack, 245F.2d 246, 248, 114 USPQ 161, 163 (CCPA 1957). **However, when the claim recites using an old composition or structure and the "use" is directed to a result or property of that composition or structure, then the claim is anticipated**. In re May, 574 F.2d 1082, 1090, 197 USPQ 601, 607 (CCPA 1978). **In this case**, the communication system (or device) of Lynt et al. provides either a single tactile display having different dedicated portions for outputting visual and auditory information, or the communication system provides separate visual and auditory tactile displays, to the skin of a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60). Further, the communication system transmitted and delivered visual and auditory information as physical signals, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6)*, representative of a key word, *e.g., mail box, police car, tanks,*

etc. (4:29-34); the communication system also transmitted dynamic elements associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44)*. Note that, Lynt et al.'s disclosure of the visual and auditory signals being transmitted to the skin of the handicapped person via different dedicated portions of a tactile display or via separate tactile displays (5:54-60), wherein the (separate) tactile display could be made spherical and when held in a hand could take a three-dimensional form of an apple (5:22-31), anticipated Appellant's claimed limitation of transmitting signals to "first part" and "second part" of the body.

Lynt et al., therefore, clearly anticipated the Appellant's claimed limitation of delivering a physical signal representative of a key word which describes a portion of a visual image to a first part of a body of the handicapped person and transmitting at least one physical input describing a dynamic element associated with the key word to a second part of the body of the handicapped person.

ii) Response to Appellant's arguments on rejected claim 1, alternatively, under 35 U.S.C. 103(a) as being unpatentable over Lynt et al.

The Appellant argued that Lynt et al. does not make obvious to physically transmit the dynamic element component to a different body part (Argument Section (1), page 21, 1st full paragraph) is respectfully disagreed.

Note that, the responses made immediately above in Section (10.I.i) with reference to Lynt et al. are also applied herein.

The Final Rejection stated that "*Should the applicant persuasively overcome the limitation of 'transmitting at least one physical input describing a dynamic element associated with said key word to a second part of the body of said handicapped person', this limitation would also be obvious since the device of Lynt can analyze at least visual images, sounds, and speech and communicates via different tactile displays to the skin of the handicapped person. Further, it is desired to communicate as much information to the handicapped person as [much as] possible to provide a true sense of the surrounds or environments.*" (Final Rejection, page 3, last paragraph bridging page 4)

Lynt et al teaches a device that communicates both visual images, e.g., *police car, tanks, etc. (4:29-34) or object movement (3:36-44),* and auditory information about the world around a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60); and that the visual and auditory information could be provided on a first portion and a second portion of the tactile display or the visual and auditory information could be provided separately (5:35-60) on the surface (or skin) of the individual's body. Lyn et al. also teaches the tactile display could be made the shape of a sphere that would take a 3D form such as an apple (5:15-34). Note that, the reference of Lynt et al. does not preclude the tactile displays to be placed on more than one portion or part of an individual' body surface (or skin).

Therefore, in view of Lynt et al.'s teachings addressed above, a person of ordinary skill in the art would desire to communicate as much information as possible to the handicapped person in order to provide a true sense or reality of the surrounds or environments. **For example**, in order to describe a running tank with rumbling noise, the

device disclosed by Lynt et al. could be used to provide the key word of the tank via a tactile display and the noise level of the rumbling tank via another tactile display to a first and second surfaces (or portion) of a user's body or skin. **In another example**, in order to describe an object such as a rolling apple or a rolling ball, the sphere display of Lyn et al. could be used in conjunction with at least one separate tactile display, wherein the sphere could take a 3D form of the ball or the apple and the at least one separate tactile display could provide the movement and/or noise level of the rolling ball or apple. These teachings are as following:

> *A data base of common object patterns could be stored and accessed during this processing to **identify ubiquitous objects, such as traffic lights, mail boxes, police cars, tanks**, etc. There is a set of international symbols for various things, and through pattern recognition, these could be found and identified. (Lynt et al., column 4, lines 19-34)*
>
> *The processing means processes the electrical signals from the imaging means. Such processing may include converting analog signals into digital signals and performing various well understood operations on the signals, such as performing a Fourier transform to extract object edge information, for example. The processing means in essence **identifies objects**, their relative size, their spatial location relative to the device, **their movement**, if any, etc. (Lynt et al., column 3, lines 36-44)*
>
> *FIG. 6 is a block diagram of an exemplary embodiment of an apparatus for converting sounds into tactile representations for use by a person who is hearing impaired, including auditory means, according to the invention. Similarly to the image processing described above, sounds would be detected and processed to form a tactile image. If the processing includes speech analysis, for example, the tactile display could be caused to form alphabetical or braille type characters.*
>
> *If used in conjunction with the imaging features, the auditory processing could indicated a general noise level, such as used by non-sighted persons to detect traffic patterns, machinery, etc. **A specific portion of the tactile display could be dedicated to imaging while another portion would be dedicated to auditory display. Alternatively, separate displays could be provided for each function**. (Lynt et al., column 5, lines 35-60)*

Thus, in addition to the anticipation of Lynt et al. presented in Section (10.I.i) above, Lyn et al.'s teachings also made obvious the Appellant's claimed limitation of *"transmitting at least one physical input describing a dynamic element associated with said key word to a second part of the body of said handicapped person"*.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

II. Response to Appellant's arguments on rejected claim 42 under 35 U.S.C 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lynt et al. (5,636,038) (Argument Section (2), page 21, last line to page 23, 2nd full paragraph).

i) Response to Appellant's arguments on rejected claim 42 under 35 U.S.C 102(b) as being anticipated by Lynt et al.

The Appellant argued that Lynt et al. does not anticipate nor make obvious claim 42 for the reasons stated in claim 1 (Argument Section (2), page 22, lines 13-16) is respectfully disagreed.

Note that, the responses to claim 1 immediately above in Section (10.I.i-ii) with reference to Lynt et al. are also incorporated and applied herein.

The Appellant further argued that Lynt et al. does not disclose any means for delivering at least one physical input describing a dynamic element associated with the key word associated with the visual images to the palm of the handicapped person (Argument Section (2), page 22, line 14 to page 23, line 23) is respectfully disagreed.

Lynt et al. teaches a visual and hearing impaired person (or a deaf-blind person)(2:36-41) would use separate visual and auditory tactile displays to obtain both visual and auditory information about the world around her/him (5:54-60); and that one of a tactile displays disclosed by Lynt et al. having a spherical shape, which when held in a hand of the handicapped person, provided 3-D information about an apple (5:22-26). These teachings are as following:

> *the display could be made spherical and about the size of a tennis ball, for instance. When held in the hand, and provided with 3-D information about an apple, for example, the sphere would take the three-dimensional form of the apple. In this embodiment, the rods would be extendable and retractable from a spherical initial position. In this embodiment, multiple imaging means, e.g., three cameras located in a triangulation arrangement, would be used, to obtain the three dimensional front, back and side information.*
>
> *Thus, a tactile image is formed by the movement of the rods against the body (skin) of the person. (Lynt et al., column 5, lines 15-34)*

While features of an apparatus may be recited either structurally or functionally, claim 42 directed to a system for communicating visual images to a handicapped person must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)

(The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "**Apparatus claims cover what a device is, not what a device does**." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). **In this case**, the communication system (or device) of Lynt et al. comprises either a single tactile display having different dedicated portions for outputting visual and auditory information, or the communication system comprises separate visual and auditory tactile displays, to the skin of a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60). Further, the communication system transmitted and delivered visual and auditory information as physical signals, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6)*, representative of a key word, *e.g., mail box, police car, tanks, etc. (4:29-34)*; the communication system also transmitted dynamic elements associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44)*. Note that, Lynt et al.'s disclosure of the visual and auditory signals being transmitted to the skin of the handicapped person via different dedicated portions

of a tactile display or via separate tactile displays (5:54-60), wherein the (separate) tactile display could be made spherical and when **held in a hand** could take a three-dimensional form of an apple (5:22-31), anticipated Appellant's claimed limitation of transmitting signals to "first part", "second part", and **"palm"** of the handicapped person. Also, note that, Lynt et al.'s teaching of holding the spherical tactile display in the hand does not preclude the palm from touching the display.

Lynt et al., therefore, clearly anticipated the Appellant's claimed limitation of delivering at least one physical input describing a dynamic element associated with the key word associated with the visual images to the palm of the handicapped person.

III. Response to Appellant's arguments on rejected claims 3-9, 14, 15, 19, 20, 22-27, 43, 46-49, and 53-58 under 35 U.S.C 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lynt et al. (5,636,038)

(Argument Section (3), page 23, last paragraph to page 30, 1st paragraph).

The Appellant argued that Lynt et al. does not anticipate nor make obvious claims 3-9, 14, 15, 19, 20, 22-27, 43, 46-49, and 53-58 (Argument Section (3), page 23, last paragraph to page 30, 1st paragraph) is respectfully disagreed.

Note that, the responses to claims 1 and 42 immediately above in Sections (10.I-II) with reference to Lynt et al. are also incorporated and applied herein.

Referring to claims 3, 27, and 58 Lynt et al. teaches delivering said key word in Braille form to a body part of said handicapped person (5:45-53; 6:15-19).

> *FIG. 6 is a block diagram of an exemplary embodiment of an apparatus for converting sounds into tactile representations for use by a person who is hearing*

impaired, including auditory means, according to the invention. Similarly to the image processing described above, sounds would be detected and processed to form a tactile image. If the processing includes speech analysis, for example, the tactile display could be caused to form alphabetical or ***braille type characters****. (Lynt et al., column 5, lines 45-53)*

Another application of the device could be as a hand-held text to braille reader. The imaging portion would be scanned over a printed document and the processing means would cause ***braille representations*** *of the scanned text to be produced on the tactile display for sensing by the user. (Lynt et al., column 6, lines 15-19)*

Referring to claims 4 and 43 Lynt et al. teaches transmitting at least one physical input describing a dynamic element to a palm of said handicapped person (3:36-66; 5:15-34). Note that, Lynt et al.'s teaching of holding the spherical tactile display in the hand does not preclude the palm from touching the display.

the display could be made spherical and about the size of a tennis ball*, for instance. When* ***held in the hand****, and provided with 3-D information about an apple, for example, the sphere would take the three-dimensional form of the apple. In this embodiment, the rods would be extendable and retractable from a spherical initial position. In this embodiment, multiple imaging means, e.g., three cameras located in a triangulation arrangement, would be used, to obtain the three dimensional front, back and side information.*
Thus, a tactile image is formed by the movement of the rods against the body (skin) of the person. (Lynt et al., column 5, lines 22-34)

Referring to claims 5-7, 46, and 47 Lynt et al. teaches transmitting a plurality of successive elements describing a motion to said palm of said handicapped person; transmitting a continuance signal to said palm of said handicapped person to indicate continuance of said motion; and wherein said continuance signal transmitting step comprises transmitting said signal in the form of at least one vibration or impact on a body part (3:36-66; 5:15-34). Note that, Lynt et al.'s teaching of holding the spherical

tactile display in the hand (5:22-29) does not preclude the palm from touching the display.

> *The processing means processes the electrical signals from the imaging means. Such processing may include converting analog signals into digital signals and performing various well understood operations on the signals, such as performing a Fourier transform to extract object edge information, for example. The processing means in essence identifies objects, their relative size, their spatial location relative to the device, their movement, if any, etc.*
>
> *If the imaging means is used to scan printed text, the processing means would include well known character recognition operations.*
>
> *In the case of auditory information, filtering to extract spoken words or word segment (phonemes), for example, according to well know speech analysis techniques would be included.*
>
> *The processing means together with the imaging means could take the form of a conventional robotic vision system, modified as necessary to obtain relevant information, and output signals for controlling the tactile display means, as would be understood by one skilled in the art.*
>
> *The tactile display means converts the processed electrical signals from the processing means into so-called "tactile images." The tactile images may be felt by a visually impaired person enabling them to ascertain information by touch about the world around them that a sighted person would ascertain through vision. The tactile display means would be placed on a surface of the individual's body and would* ***provide tactile stimulation to the surface of the individual's skin*** *to form a representation of the view of the imaging means.* (Lynt et al., column 3, lines 36-66)

Referring to claims 8, 9, 48, and 49, the limitations of delivering information about a musical background to said handicapped person; and wherein said musical background delivering information comprises transmitting at least one of long and short physical impacts to a body part of said handicapped person are inherent from Lynt et

al.'s teaching of processing and delivering auditory information to the handicapped person (2:15-27; 2:50-60; 3:32-35, 47-50; 4:40-42, 53-59).

> *In another embodiment, sounds may also be converted into tactile representations for use by a person who is also hearing impaired. This embodiment further comprises auditory imaging means for converting sounds into electrical signals, processing means for processing these electrical signals, and tactile display means for converting processed electrical signals into further tactile images. The further tactile images are felt by the hearing impaired person enabling them to ascertain information by touch about the world around them that a hearing person would ascertain through hearing. The further tactile images may be produced by tactile vibrations of at least a portion of the tactile display means.* (Lynt et al., column 2, lines 15-27)

Referring to claims 14, 15, 19, and 53-55, the limitations of transmitting information about said visual images to the back of at least one finger of said handicapped person (claims 14, 53); and transmitting information about the character of a person displayed in said visual images through at least one impact to said back of said at least one finger (claims 15, 54); and transmitting information about said visual images to a front portion of at least one finger (claims 19 and 55) are inherent from Lynt et al.'s teaching of the tactile display means would be placed on surface of a portion of the individual's body and the display could be a two dimensional grid in the shape of a hand or finger tip (2:1-6; 3:62-66; 5:19-20).

> *The tactile display means may comprise a plurality of individually controlled miniature actuators, e.g., motors or solenoids, oriented in a grid each of which respond to a portion of the processed electrical signals, a plurality of miniature gear assemblies, e.g., rack and pinion gear assemblies, each of which is operatively connected to one of the miniature actuators so that rotational motion of a pinion connected to a shaft of a miniature actuator is converted into linear motion of a rack, a plurality of rods, each of which is connected to one of the racks, so that when the racks move linearly, the rods move linearly as well, and means for adapting the tactile display means to a portion of the body of a visually*

impaired person including means for causing the rods to move perpendicular to the surface of the portion of the body. A tactile image is thus formed by the movement of the rods against the body of the person. (Lynt et al., column 1, line 58 to column 2, line 6)

Means for adapting the tactile display means to a portion of the body of a visually impaired person may also be provided, and would include means for causing the rods to move perpendicular to the surface of the portion of the body. For example, ***the tactile display could be a two-dimensional grid in the shape of a hand or finger tip****, for example. It does not necessarily have to be rectangular, for example.* (Lynt et al., column 5, lines 15-21)

Referring to claim 20 Lynt et al. teaches transmitting information about a particular group, e.g., any activity detected by the cameras of the image means (1:35-57).

Referring to claim 22 Lynt et al. teaches transmitting information about lighting to said front portion of said at least one finger (1:35-45; 2:7-14; 5:35-44).

Referring to claims 23-25 and 56, Lynt et al. teaches transmitting information about scenery, a place, activity, and different pieces of information about visual images (e.g., detecting traffic lights, traffic patterns, machinery, etc) to said front portion of said at least one finger (5:35-60).

Referring to claims 26 and 57 Lynt et al. teaches transmitting information about a dialogue being spoken associated with said visual image to said handicapped person (6:10-32).

Referring to claims 71 and 72, wherein said transmitting step comprises transmitting said at least one physical input describing said dynamic element to a second part of the body which is different from said first part of the body; and wherein

said delivering means delivers said physical signal to at least one of fingertips of a hand that does not include said palm and fingers that are part of the hand which has said palm, since Lynt et al. teaches using separated tactile displays to communicate visual and auditory information to the handicapped person (5:45-65), it would have been obvious to communicate as much information to any part of the handicapped person as possible to provide a true sense or reality of the surrounds or environments.

Note that, regarding claims 3-9, 14, 15, 19, 20, 22-27, 71, and 72, the discovery of a new use for an old structure based on unknown properties of the structure might be patentable to the discoverer as a process of using. In re Hack, 245F.2d 246, 248, 114 USPQ 161, 163 (CCPA 1957). **However, when the claim recites using an old composition or structure and the "use" is directed to a result or property of that composition or structure, then the claim is anticipated**. In re May, 574 F.2d 1082, 1090, 197 USPQ 601, 607 (CCPA 1978).

Further note that, in claims 43, 46-49, and 53-58, while features of an apparatus may be recited either structurally or functionally, the claims directed to a system for communicating visual images to a handicapped person must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

"**Apparatus claims cover what a device is, not what a device does**." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). **Furthermore**, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

IV. Response to Appellant's arguments on rejected claims 2, 13, 16-18, 21, 28-32, 35, 36, 44, 52, 59-64, and 67-70 under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Hagle (3,831,296) (Argument Section (4), pages 30-35).

The Appellant argued that Lynt et al. in view of Hagle does not make obvious claims 2, 13, 16-18, 21, 28-32, 35, 36, 44, 52, 59-64, and 67-70 under 35 U.S.C. 103(a) (Argument Section (4), page 23, last paragraph to page 30, 1st paragraph) is respectfully disagreed.

Note that, the responses to claims 1, 14, 15, 19, 20, and 42 above in Sections (10.I-III) with reference to Lynt et al. are also incorporated and applied herein.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). **In this case, Lynt et al. teaches** a system and method for delivering a physical signal, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6)*, representative of a key word, *e.g., mail box, police car, tanks, etc. (4:29-34)*, describing a portion of a visual image to a first part of a body of the handicap person; transmitting at least one physical input describing a dynamic element associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44),* to a second part of the body of the handicapped person. The communication device of Lynt et al. provides either a single tactile display having different portions for outputting visual and auditory information or the device provides separate visual and auditory tactile displays to a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60). **Hagle further teaches** a method and system for communicating with the blind and deaf person comprises providing said handicapped person with information about a state of reception of a system on which said visual images are displayed (3:8-12); dividing said fingers of a hand of said handicapped person into a first group consisting of a pointer finger and a middle finger (Fig.3, e.g., fingers 39, 35)(3:34-41) and into a second group consisting of a ring finger and a pinky (Fig.3, e.g., fingers 36, 37)(3:24-41); using a thumb of said handicapped person to perform control functions (Figs. 2, 3; 1:40-2:4); using said thumb to perform call for person (1:28-2:12); using said thumb to receive information about general information (Figs. 2-4; 3:30-64); said allowing means

comprises a thumb cradle or a thumb sleeve or a pinky cradle, i.e., gloves (Figs. 1-4; 3:15-29). **It would have been obvious** to a person of ordinary skill in the art at the time the invention was made to provide Hagle's two-way communication system for the blind and deaf person to the system for converting visual and auditory into tactile representation, as taught by Lynt et al., to come up with a communication system that provide the deaf and blind person total control thus he or she can truly experience and interact with the environment.

With respect to claims 16-18, 21, 31, 35, 36, 62, and 67-70, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). **In this case**, the communication system of Lynt et al. and Hagle, wherein Lynt et al.'s and Hagle's teaching of the handicap person is taught that each location of the simulators represent a different function, is capable of performing the claimed functions of transmitting information about a bad character to one of said fingers of said first group and transmitting information about a good character to one of said fingers of said second group; designating one finger of each of said groups for receiving information about a male character and designating one finger of each of said groups for receiving information about a female character; transmitting information about an age of a

character and a personality of said character to said back of said at least one finger; transmitting information about a profession of said character to said front portion of said at least one finger; transmitting information about at least one of female representation and cross relationships to a front portion of a pinky of said handicapped person; transmitting information about emotional state to at least one finger of at least one hand of said handicapped person; said aggression group information is transmitted to a finger of a hand; said neutral group information is transmitted to a finger of a hand; and said pleasant group information is transmitted to a finger of a hand.

Referring to claim 2 and 44, Lynt et al., as modified by Hagle, discloses delivering said key word in Morse code form to a handicapped person via a body part is well known way to provide alternative communication form for unwritten communication, e.g., "*a blind and deaf person is limited in his ability to communicate to systems which utilize one of his remaining senses, such as touch. In such cases, the person can be taught the Morse code for unwritten communication and Braille for reading." (Hagle, column 1, lines 16-20)*; therefore it would have been obvious to utilize Morse code as an additional or alternative communication language to provide as much information as possible in order to provide the deaf and blind person total experience and control thus he or she can truly interact with the environment.

Lynt et al. in view of Hagle, therefore, made obvious the Appellant's claimed communication system and method.

V. Response to Appellant's arguments on rejected claims 10-12, 39-41, 50, and 51 under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Butnaru et al. (6,240,392) (Argument Section (5), pages 35-38).

The Appellant argued that Lynt et al. in view of Butnaru et al. does not make obvious claims 10-12, 39-41, 50, and 51 under 35 U.S.C. 103(a) (Argument Section (5), page 35, last paragraph to page 38, 1st paragraph) is respectfully disagreed.

Note that, the responses to claims 1, 14, 15, 19, 20, and 42 above in Sections (10.I-III) with reference to Lynt et al. are also incorporated and applied herein.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). **In this case, Lynt et al. teaches** a system and method for delivering a physical signal, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6),* representative of a key word, *e.g., mail box, police car, tanks, etc. (4:29-34),* describing a portion of a visual image to a first part of a body of the handicap person; transmitting at least one physical input describing a dynamic element associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44),* to a second part of the body of the handicapped person. The communication device of Lynt et al. provides

either a single tactile display having different portions for outputting visual and auditory information or the device provides separate visual and auditory tactile displays to a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60). **Butnaru et al. further teaches** a communication device and method for deaf and mute persons comprising transmitting information about a start and an end of a commercial to said handicapped person (7:36-67); transmitting information about a start of and an end of an emergency broadcast test/test to said handicapped person (abstract: indicator signals); visual image is part of a television program containing sound (column 1 lines 63-67) and said handicapped person is a deafblind person (column 1 lines 13-16) and wherein said method further comprises transmitting information about dialogue being spoken by characters on said television program to said deafblind person (column 7 lines 36-40); discloses wherein said information about said dialogue is transmitted by a keypad contacting fingertips of said deafblind person and said key word is delivered to said deafblind person through a plurality of impacts on a palm of a hand of said deafblind person (Lynt et al.'s 2:29-44; 3:23-66). **Thus, it would have been obvious** to a person of ordinary skill in the art at the time the invention was made to include transmitting information about a start and an end of a commercial to said hand capped person as disclosed by Butnaru et al, incorporated into Lynt et al. in order for the user to enjoy the television show by allowing the user to distinguish between the actual show and the commercials. **Further, it would have been obvious** to a person of ordinary skill in the art at the time the invention was made to include transmitting information about a start of and an end of a emergency broadcast test/test to said handicapped

person, as disclosed by Butnaru et al., incorporated into Lynt et al.'s in order to represent dangerous or cautious situations. **Furthermore, it would have been obvious** to one of ordinary skill in the art at the time the invention was made to include storing information from a written indicia scrolling across a screen, as disclosed by Butnaru et al., incorporated into Lynt et al.'s in order to display the symbolic representation of the speech data.

Lynt et al. in view of Butnaru et al., therefore, made obvious the Appellant's claimed communication system and method.

VI. Response to Appellant's arguments on rejected claims 33, 34, 65, and 66 under 35 U.S.C. 103(a) as being unpatentable over Lynt et al. (5,636,038) in view of Nissen (U.S. 2004/0098256) (Argument Section (6), pages 38-39).

The Appellant argued that Lynt et al. in view of Nissen does not make obvious claims 33, 34, 65, and 66 under 35 U.S.C. 103(a) (Argument Section (6), page 38, 1st full paragraph to page 39, 2nd full paragraph) is respectfully disagreed.

Note that, the responses to claims 1 and 42 above in Sections (10.I-II) with reference to Lynt et al. are also incorporated and applied herein.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). **In this case, Lynt et al. teaches** a system and method for delivering a physical signal, *e.g., rods of tactile images moving against the body of a handicap person (2:1-6)*, representative of a key word, *e.g., mail box, police car, tanks, etc. (4:29-34)*, describing a portion of a visual image to a first part of a body of the handicap person; transmitting at least one physical input describing a dynamic element associated with the key word, *e.g., transmitting information of identified objects and their movement (3:36-44)*, to a second part of the body of the handicapped person. The communication device of Lynt et al. provides either a single tactile display having different portions for outputting visual and auditory information or the device provides separate visual and auditory tactile displays to a visual and hearing impaired person (or a deaf-blind person)(2:36-41; 5:54-60). **Nissen further teaches** a tactile communication system that transmits information about grammatical tense to at least one finger of at least one hand (paragraphs 0014, 0022, 0023, 0079 & 0082); transmitting grammatical tense information to a back of a pinky of said at least one hand (paragraph 0023). **It would have been obvious** to one of ordinary skill in the art at the time the invention was made to include transmitting information about grammatical tense to at least one finger of at least one hand, as disclosed by Nissen, incorporated into Lynt et al. in order to have direct communication with or between deafblind people.

Lynt et al. in view of Nissen, therefore, made obvious the Appellant's claimed communication system and method.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Binh-An D. Nguyen/
Examiner
Art Unit 3714

BN

October 21, 2009

Conferees:

/Dmitry Suhol/

Supervisory Patent Examiner, Art Unit 3714

/Joseph J. Hail, III/

Supervisory Patent Examiner, Art Unit 3723